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MEMORANDUM

DATE: December 14, 1999

TO: Deborah Leblang, Task Monitor, EPA, Region 10, Seattle, WA

FROM: Ben Martich, Project Manager, E & E, Anchorage, AK

SUBJ: Hazard Ranking System (HRS) Score
Neklason Lake Radio Relay Site
Palmer, Alaska

REF: Contract No. 68-W6-0008
Technical Direction Document No. 98-07-0021

cc: Gary Sink, START Project Officer, EPA, Region 10, Seattle, WA (memorandum only)
David Bennett, National Priorities List Coordinator, EPA, Region 10, Seattle, WA
David Byers, START Program Manager, E & E, Seattle, WA (memorandum only)
Linda Foster, START Project Leader, E & E, Seattle, WA

An HRS score of 8.39 was derived for the Neklason Lake Radio Relay Site located in Palmer, Alaska, as part of a Preliminary Assessment. The score is based on EPA site files; United States Army Engineer District, Alaska, site files; federal, state, and local government documents; public documents; target information; site contact information; a site visit; and, where necessary, professional assumptions.

The HRS scoresheets, which were generated using PREScore 4.1 software, are attached. The following information and assumptions were used to derive the score.

Sources

- Contaminated Soil: One surface soil sample collected at the garage building contained 0.290 mg/kg of Aroclor 1260. START estimates approximately 500 square feet of contaminated soil to a depth of 1 foot at this location (18.5 cubic yards).

Groundwater Migration Pathway

- An observed release to groundwater is not assumed. Targets are expected to be subject to potential contamination.
- No source area at the site is a surface impoundment, land treatment area, buried

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container with a lining that is inspected and maintained regularly, or tank. There is no containment associated with any source at the site. A containment factor value of 10 is assumed.

- The net annual precipitation at the site is approximately 0 inches.
- One confined aquifer is assumed to exist at the site. The depth to the aquifer is approximately 94 feet below ground surface (BGS). A second unconfined aquifer exists near the site. Depth to this unconfined aquifer is 14 feet BGS.
- The on-site well is finished in the confined aquifer and serves one person.
- The remaining 1,301 wells located within a 4-mile radius are assumed to be finished in the unconfined aquifer and serve 8,409 persons.
- The total thickness of the least conductive soil layer (estimated hydrologic conductivity of 10^{-8}) for the on-site well is assumed to be 7 feet.
- The total thickness of the least conductive soil layer (estimated hydrologic conductivity of 10^{-2}) for all other wells is assumed to be 2 feet.
- Groundwater is not used for irrigation of more than 5 acres of commercial food crops or commercial forage crops, for watering of commercial livestock, as an ingredient in commercial food preparation, for supply for commercial aquiculture, or for supply for a major or designated water recreation area.
- The site is not in a Safe Drinking Water Act wellhead protection area.

Surface Water Migration Pathway

- An observed release to surface water is not assumed. Targets are expected to be subject to potential contamination.
- The probably point of entry is assumed to be an intermittently flowing ditch located approximately 800 feet southeast of any source area at the site.
- The 15-mile surface water target distance limit (TDL) extends from this ditch to Finger Lake, located approximately ½ mile south of the PPE.
- No source area at the site is a surface impoundment, land treatment area, buried container with a lining that is inspected and maintained regularly, or tank. There is no containment associated with any source at the site. A containment factor value of 10 is assumed.
- There is no upgradient drainage area at the site, and the site is relatively flat.
- Surficial soils are assumed to be coarse textured with high infiltration rates.
- The two-year, 24-hour rainfall event for the Palmer area is 1.5 inches.

- The site is assumed to be in a 500-year flood plain, and no containment system for a flood event is established at the source area.

- No drinking water intakes are recorded or expected within the TDL, however, in Alaska, all surface water is protected for drinking water unless otherwise specified. Surface water within the TDL is thus assumed to be protected as a drinking water source. Additionally, Finger Lake is a State designated Recreation Area.

- Surface water is not used for irrigation of commercial food crops or forage crops, for watering of commercial livestock, as an ingredient in commercial food preparation, or for supply for a major or designated water recreation area.

- No subsistence or commercial fish harvest is reported to occur within the surface water TDL.

- Approximately 4,329 pounds of fish is estimated to be harvested by sport fishing within the surface water TDL.

- There are no federally listed endangered or threatened species within the surface water TDL.

- It is assumed that no wetlands exists within the surface water TDL.

Soil Exposure Pathway

- One area of observed soil contamination exists at the site (see "Sources" section above).

- No schools, day care facilities, or residences are located within 200 feet of a source.

- An area of observed contamination is located within a workplace (1 worker) boundary and within 200 feet of a workplace.

- No resources such as commercial agriculture, silviculture, or livestock production or grazing exist on an area of contaminated soil at the site.

- No terrestrial-sensitive environments are known to occur on a source of contamination at the site.

- Approximately 665 nearby individuals are located within a 1-mile travel distance of the site.

- The nearest residence (3 persons) is located 200 feet west of the site boundary.

- No one attends school within 1 mile of the site.

- The site is surrounded by a fence with a locked gate.

Air Migration Pathway

- An observed release to air is not assumed. Targets are expected to be subject to potential contamination.
- A gas containment factor value of 10 is assumed for the source area at the site because of a lack of any containment.
- A particulate containment factor value of 10 is assumed for the site.
- A particulate migration potential factor value of 17 is assumed for the site.
- A particulate mobility factor value of 0.00002 is assumed for the site.
- The nearest individual is located approximately 50 feet from a source.
- Approximately 10,782 people are located within a 4-mile radius of the site.
- Commercial agriculture, commercial silviculture, or major or designated recreation areas are not present within ½ mile of a source having an air migration containment factor greater than 0 at the site.
- Approximately 1,035 acres of wetlands exists within a 4-mile radius of the site.
- Sensitive environments located within a 4-mile radius of the site include 3 State Recreations Sites: Wolf Lake, Finger Lake, and Kepler-Bradley Lake.

If you have any questions regarding the HRS score or the information and assumptions used to derive the score, please call me at (907) 257-5000.